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(72) Inventors:
• Brozell, Brian J.
Maumee, OH 43537 (US)
• Perry, Robert A.
Toledo, OH 43613 (US)

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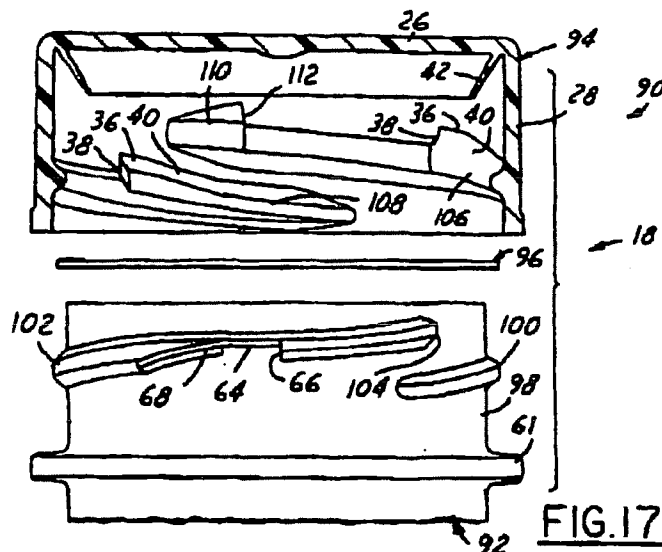
(74) Representative: Mercer, Christopher Paul et al
Carpmaels & Ransford
43, Bloomsbury Square
London WC1A 2RA (GB)

(71) Applicant: OWENS-ILLINOIS CLOSURE INC.
Toledo Ohio 43666 (US)

(54) Child-resistant closure and container package

(57) A child-resistant closure and container package includes a container having a finish (92) with an external thread (100) and pockets (64) in the thread. A closure has a base wall (26), a peripheral skirt (28) with an internal thread (108) and lugs (40) on the internal thread for receipt in the pockets, and a spring element (42) on the base wall for engagement with the container finish to bias the closure away from the container finish and resiliently urge the lugs into the pockets. A liner (96) is

urged by the spring element into engagement with the container finish (92). The liner may include a base with metal and plastic layers for induction-welded sealing engagement with the finish such that, upon removal of the closure, the metal and plastic layers remain secured to the finish and the liner base is removed with the closure. The metal and plastic layers may be removed by a user for access to the contents of the container, and the liner base continues to serve as a package seal during use of the package.



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EUROPEAN SEARCH REPORT

Application Number
EP 02 25 7189

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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Y	* column 1, line 35 - line 61 * * column 2, line 44 - line 46; figures 2-4 *	3,7	
Y	---		
Y	US 5 462 186 A (LADINA JOSEPH M ET AL) 31 October 1995 (1995-10-31) * column 3, line 20 - column 5, line 9; figures 1,3,4 *	3,7	
A	---		
A	US 4 090 629 A (HEDGEWICK PETER) 23 May 1978 (1978-05-23) * column 4, line 40 - line 60; figures 6,7 *	3	
A	---		
A	US 4 522 307 A (STEINER GERALD E) 11 June 1985 (1985-06-11) * column 2, line 60 - column 4, line 22; figures 7-22 *	1-6, 32-35	
A	---		
A	DE 26 25 875 A (CNC IND) 22 December 1977 (1977-12-22) * figures 1-8 *	1-6, 32-35	TECHNICAL FIELDS SEARCHED (Int.Cl.7) B65D
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A	US 4 084 717 A (KING RODERICK V) 18 April 1978 (1978-04-18) * figures 2,9 *	3	
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-The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 28 January 2003	Examiner Bevilacqua, V
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons A : member of the same patent family, corresponding document</p>			

EPO FORM 1503 (03.02) (P04C01)



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Application Number
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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-7, 32-35

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LACK OF UNITY OF INVENTION
SHEET B

Application Number

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-7,32-35

A child resistant closure and container package including

- a container having a finish with at least one external thread and pockets in said external thread
- a closure having a base wall, a peripheral skirt with at least one internal thread, lugs on said internal thread for receipt in said pockets
- a spring element for engagement with said finish to bias said closure away from said finish and urge said lugs into said pockets

whereby

one of said internal thread has a circumferentially facing axially extending stop at an upper end thereof to prevent over-tightening and internal and external threads are dual threads with each thread extending for at least 180 degrees

1.1. Claims: 1-6

2. Claims: 8-28, 36, 50-55

A child resistant closure and container package including

- a container having a finish with at least one external thread and pockets in said external thread
- a closure having a base wall, a peripheral skirt with at least one internal thread, lugs on said internal thread for receipt in said pockets
- a spring element for engagement with said finish to bias said closure away from said finish and urge said lugs into said pockets

whereby

-the pockets are realized on an undersurface of said external thread that do not extend axially through said thread

3. Claims: 29-31,37-41, 56

A child resistant closure and container package including



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LACK OF UNITY OF INVENTION
SHEET B

Application Number

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

- a container having a finish with at least one external thread and pockets in said external thread
 - a closure having a base wall, a peripheral skirt with at least one internal thread, lugs on said internal thread for receipt in said pockets
 - a spring element for engagement with said finish to bias said closure away from said finish and urge said lugs into said pockets
- and additionally
- a liner urged by said spring element into engagement with said finish, said liner including a base with metal and plastic layers for induction sealing securement to said finish such that upon removal of said closure, said metal and plastic layers remain secured to said finish and said liner base is removed with said closure
- And a method of making said child resistant closure and securing said liner to the end of the container.

4. Claims: 42-49

A closure including an integrally molded plastic body having a base wall, a peripheral skirt with at least one internal thread, lugs on said internal thread for receipt in said pockets and

a spring element for engagement with said finish to bias said closure away from said finish and urge said lugs into said pockets

whereby

the lugs have an angulated surface sloping toward an end of said thread remote from said base wall and a circumferentially facing radially extending abutment surface on an end of said lugs facing an opposing end of said thread

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 02 25 7189

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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28-01-2003

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82